

REMARKS

The above Amendments and these Remarks are in reply to the Office Action mailed February 26, 2003.

Applicants' below signed representative would like to thank the Examiner for the telephone interview on May 21, 2003. During this interview, the 35 U.S.C. 112, second paragraph, rejections were discussed. Additionally, Applicants' representative explained how claim 55, as amended, is distinguishable from the applied references and the newly submitted Utsumi reference (U.S. Patent No. 4,318,718).

I. Restriction/Election

During a telephone conversation with the Examiner on February 7, 2003, Applicants' representative (Sheldon Meyer) provisionally elected Group I (claims 29-37, 43-57, and 61-63) for prosecution in the above-identified application. Applicants are now affirming the election of Group I, without traverse. In the amendment herein, Group II (claims 39-42 and 58-60), and Group III (claims 64-66, 68-78, 80, 82-89) are herein cancelled without prejudice. Applicants reserve the right to re-present the non-elected claims by filing divisional applications directed thereto.

II. Discussion of Applicants Claimed Inventions

The Title of the present application is "Electrode Self-Cleaning Mechanism for Electro-Kinetic Air Transporter-Conditioner Devices." Further, the Field of the Invention section states that the present invention relates to "cleaning the wire or wire-like electrodes present in" devices that produce ozone and

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electro-kinetic flow of air. Further still, the Background of the Invention explains in detail the necessity for carefully cleaning electrodes without snapping the electrodes.

Nevertheless, throughout the Office Action are repeated statements that “the manner as to how the first electrode is cleaned ... would have insignificant patentable weight when an apparatus is being considered” and that a “reference’s first electrode would inherently be cleaned in the same manner as in the present claimed invention” if the reference included two electrodes coupled to a high voltage generator. Applicants respectfully disagree with these assertions in the Office Action.

Applicants claimed invention enables efficient, safe (i.e., without breaking the electrode) and effective cleaning of electrodes. There is no justification for the cleaning features of Applicants claims to be given “insignificant patentable weight.” Further, there is no reason that a device including a pair of electrodes and a high voltage generator would “inherently be cleaned in the same manner as the present invention.” These and other arguments are discussed in detail below.

III. Rejections under 35 U.S.C. § 112, 2nd paragraph

Claims 44 and 46 were rejected under 35 U.S.C. § 112, 2nd paragraph, for minor antecedent bases problems. Claims 44 and 46 depend from independent claim 43, which recited “at least one bead-shaped member.” Claim 43 has been amended to now recite “a bead-shaped member.” Applicants believe there is now proper antecedent basis for claims 44 and 46, and respectfully request that this rejection be withdrawn. Applicants note that the change of language from “at least one bead-shaped member” to “a bead shaped member” is not a narrowing claim because the claim still covers products that include more than one bead-shaped member, as well as products that include a single bead-shaped

member. However, claims 44 and 46 may now be broader because only one bead-shaped member, of the potentially many bead-shaped members, need have the characteristics set out in these claims.

IV. Double Patenting Rejections

In section 13 of the Office Action, claims 29-37, 43-57 and 61-63 were rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1-11 and 16-19 of commonly assigned U.S. Patent No. 6,350,417 to Lau et al. The Examiner also noted that this was only one example of numerous obviousness-type double patenting rejections, and that Applicants are referred to paragraph 23 of the Office Action for "other pertinent prior art."

Applicants can appreciate how there may possibly be a double patenting concern with respect to U.S. Patent No. 6,350,417. Applicants can also appreciate how there can possibly be a double patenting concern with respect to U.S. Patent Application No. 09/730,499, which includes claims relating to removable electrodes, as do some claims in the present application. However, Applicants respectfully assert that the pending claims are patentably distinct from the claims of all of the remaining patents and applications listed in paragraph 23 of the Office Action. The pending claims of the present application include features relating frictionally cleaning electrodes. As explained throughout this Response, Applicants believe that such features, as claimed, are patentable. None of the remaining patents or applications listed in paragraph 23 are believed to include claims to such features.

In addition to U.S. Patent No. 6,350,417 and U.S. Patent Application No. 09/730,499, there are some additional pending applications (not mentioned in the Office Action) that may include claims producing a potential double patenting concern with claims of the present invention. These additional

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pending applications included U.S. Patent Application Nos. 09/924,600; 10/278,193; 10/349,263 and 10/387,272. In order to expedite prosecution of the present application, Applicants are timely filing a terminal disclaimer herewith to alleviate such potential concerns. However, Applicants are not making any admission that the pending claims in the present application are not patentably distinct from the claims in patent and the applications listed in the terminal disclaimer. Rather, Applicants are merely filing the terminal disclaimer to expedite issuance of the pending claims in this application.

Applicants respectfully request that the non-statutory double patenting rejection be withdrawn.

The Examiner is respectfully requested to telephone the undersigned if the Examiner still believes that the terminal disclaimer enclosed herewith is not sufficient.

There are believed to be no additional rejections of claims 29-37 and 61-62 in the Office Action.

Applicants further assert that claim 61 as amended is patentable over the newly submitted Utsumi reference for the reasons similar to those explained below in the discussion of claim 43.

Accordingly, Applicants respectfully assert that claims 29-37 and 61-62 are now in condition for allowance.

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V. Anticipation Rejections based on 35 U.S.C. 102

V.A. Claims 43-46

V.A.1. Rejections of claims 43-46 under 35 U.S.C. 102(b)

Independent claim 43, as amended, is reproduced below for the convenience of the Examiner.

43. A conditioner device, comprising:

- a portable housing;
- a first electrode, disposed in said housing;
- a second electrode, removably disposed in said housing;
- a source of high voltage, disposed in said housing, coupled between said first electrode and said second electrode; and
- a bead-shaped member defining a through opening;

wherein said first electrode passes through said through opening and an outer surface of said first electrode may be at least partially frictionally cleaned by movement of said bead-shaped member along a length of said first electrode when said portable housing is rotated.

V.A.1.(i) based on Aitkenhead et al.

In section 17 of the Office Action, claims 43-44 were rejected under 35 U.S.C. 102(b) as allegedly being anticipated by U.S. Patent No. 3,581,470 to Aitkenhead et al. It is alleged in the Office Action that Aitkenhead teaches "at least one member defining a through circular opening (see Figs. 1, 13,

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15, 18-19; col. 10-19-28, 61-67).” Applicants are not sure what “col. 10-19-28, 61-67” refers to, but can only guess that it refers to column 10, lines 19-28 and lines 61-67. At this portion of Aitkenhead there is a discussion of “aligning holes.” However, there is absolutely no discussion of “a bead-shaped member defining a through opening” as required by claim 43. Further, none of the figures in Aitkenhead shown “a bead-shaped member defining a through opening.” Applicants assert that just because something has a hole in it, does not make it a bead-shaped member defining a through opening. Examples of the claimed “bead-shaped member” are shown in FIGS. 7A-7E of the present application.

Further, Aitkenhead does not teach or suggest, explicitly or inherently, that “said first electrode passes through said through opening [of said bead shaped member] and an outer surface of said first electrode may be at least partially frictionally cleaned by movement of said bead-shaped member along a length of said first electrode,” as required by claim 43. These claimed features are **NOT** mere functional features, but rather describe the structural relationship between the bead-shaped member and the first electrode. That is, the bead-shaped member and the second electrode are structurally related such that the first electrode passes through the through opening in bead shaped member, so that an outer surface of the first electrode can be at least partially frictionally cleaned by movement of the bead-shaped member along a length of the first electrode. Examples of this claimed structural relationship are shown in FIGS. 7A-7E and are discussed in the corresponding text, e.g., on pages 22-24.

As just explained, it is the structural relationship between the bead-shaped member and the first electrode that causes the first electrode to be at least partially frictionally cleaned. Accordingly, Applicants assert that it is **NOT** inherent that the apparatus of Aitkenhead would be cleaned in the same manner as claimed in claim 43. The Board of Patent Appeals and Interferences has stated that “[i]n relying upon the

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theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art.” Ex parte Levy, 17 USPQ2d 1461, 1464 (1990). There is nothing in Aitkenhead that teaches or suggest that a first electrode is frictionally cleaned by movement of a bead-shaped member along a length of the first electrode. That is, it does **NOT** necessarily flow that Aitkenhead’s showing of first and second electrodes also shows that the first electrode is frictionally cleaned by a bead-shaped member (which is not even shown in Aitkenhead). Rather, it is the structural relationship, shown for example in FIGS. 7A-7E of the present application, and discussed in the corresponding text (e.g., on pages 22-24) of the present application, that will enable this claimed cleaning feature.

V.A.1.(ii) based on Kikuchi

In section 18 of the Office Action, claims 43-44 are rejected under 35 U.S.C. 102(b) as allegedly being anticipated by U.S. Patent No. 4,092,134 to Kikuchi.

FIGS. 1 and 2 of Kikuchi show two embodiments of a scraping means 4 for cleaning dust collecting electrodes 3. FIGS. 7 and 8 of Kikushi are partial side elevational views showing different embodiments of the scraping means 4 and its suspending chain 6. In every embodiment of Kikushi, each scraping means is shown and described is being made from “spilt sliding bars” that are “slidably mounted around each group 2 of the dust collecting electrodes.” (See Kikushi, column 4, lines 33-36). Further, the sliding bars 5 of the scraping means 4 are described as being a “heavy load” that requires a winding machine 14 and chains 6 to raise the scraping means (See, e.g., Kikushi, column 6, lines 9-17).

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In contrast, claim 43 requires “a bead-shaped member defining a through opening” and that “said first electrode passes through said through opening and an outer surface of said first electrode may be at least partially frictionally cleaned by movement of said bead-shaped member along a length of said first electrode.” Applicants assert that the “bead-shaped member” of claim 43 is patentably distinct from the scraping means 4 of Kikushi. First of all, the claimed bead-shaped member is much smaller, lighter, and of a different shape than the scraping means of Kikushi. This can be appreciated from FIGS. 7A-7E of the present application. Further, because of the relatively small size and weight of a bead-shaped member, movement of the bead-shape member “can result from the user inverting unit 100, e.g., turning the unit upside down.” (See the present application, page 22, lines 35-56.) Further, because of the relatively small size and weight of a bead-shaped member, movement of the bead-shaped member can be accomplished without the complicated machinery of Kikushi. As claimed, it is such movement of the bead-shaped member along the length of the first electrode that at least partially frictionally cleans the first electrode. In contrast, Kikushi requires the complex, heavy and costly winding machine 14 and chains 6 to maneuver the large, heavy and bulky scraping means 4.

V.A.1.(iii) based on Borysiak

In section 19 of the Office Action, claims 43-44 are rejected under 35 U.S.C. 102(b) as allegedly being anticipated by U.S. Patent No. 4,284,420 to Borysiak. FIGS. 1 and 2 of Borysiak show scrapers 32, 42 and 36. However, none of these scrapers 32, 42 and 36 are a “bead-shaped member” as required by claim 43. The advantages of having a “bead-shaped member,” as claimed, have just been explained

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above. The scrapers 42, 42 and 26 of Borysiak, in contrast, are generally planer and rectangular, and require machinery to maneuver.

For at least the reasons discussed above, Applicants respectfully request that the rejection of independent claim 43 be withdrawn.

Claims 44-46 depend from and add additional features to claim 43. Applicants assert that these claims are patentable for at least the reasons discussed above with regards to claim 43, and for the features that they add.

V.A.1.(iv) Discussion of new art (Utsumi)

Applicants are herewith submitting U.S. Patent No. 4,318,718 to Utsumi et al., with the enclosed Information Disclosure Statement. The Background section of Utsumi states the following:

In conventional electric dust collectors, it is relatively easy to clean the dust collecting electrode plates by blowing gases and cleaning liquids against them. However, it has been difficult to remove dust from thread-like discharge wires. The hammering technique widely used on electrode plates in which mechanical vibration is applied to such plates cannot be employed for the discharge wires. As the dust accumulates of the wires, the discharging function of the discharge wires deteriorates.

In order to cope with these problems, the following measures have been adapted in conventional dust collectors. As shown in FIG.1, a bead-like slider 9o is slidably fitted over each of the discharge wire 4 with are vertically stretched with their ends secured to frame 2'. Periodically, each discharge wire unit is disassembled from its frame and is manually turned upside-down to cause the sliders to fall along the discharge wires by gravity, thereby removing the dust.

However, because dozens of discharge wires 4 are secured to the frame 2', the need to remove each such unit for cleaning places substantial limitations on the design of dust collecting electrode plates and like mechanisms. Furthermore, it requires skill to reinstall the discharge wire unit in place with accuracy. This conventional dust collector also has the disadvantage in the repair of the units is often required after the cleaning is carried out due to inadvertent damage thereof.

[See Utsumi, column 1, lines 19-48]

Thus, Utsumi describes the difficulty in cleaning wire discharge electrodes, and the disadvantages of using a bead-like slider that requires each wire to be removed from a frame in order for the wire to be manually turned upside down, allowing the bead-like slider to clean the wire. Utsumi's solution for overcoming such disadvantages is to use a somewhat complex and elaborate gas ejector pipe 11, including an ejector nozzle 12, that directs compressed air below slider 9, causing the slider to move up along the discharge wire, scraping dust off the wire. In summary, the embodiment shown in FIG. 1 of Utsumi requires that each wire be removed from a frame in order to be inverted, allowing the bead-like slider 9 to clean the wire. The remaining FIGS. of Utsumi describe embodiments in which compressed air is used to move the slider 9.

In contrast, in the device of claim 43, "an outer surface of said first electrode may be at least partially frictionally cleaned by movement of said bead-shaped member along a length of said first electrode **when said portable housing is rotated.**" The device of claim 43 is advantageous over the FIG. 1 design shown in Utsumi, because the electrode need not be removed from the housing in order to be rotated, but rather, the entire portable housing (within which are disposed an electrode and a high voltage generator) is rotated, causing the bead-shaped member to frictionally clean the electrode disposed in the housing. Further, it appears that this solution is not available for Utsumi because the dust collector of Utsumi appears to be a large industrial unit which is not manually portable and/or rotatable. The device of claim 43 is also advantageous over the FIGS. 2-6 embodiments of Utsumi because the device of claim 43 does not require

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the somewhat complex and elaborate gas ejector pipe/nozzle arrangement which delivers compressed air to move a slider.

For at least the reasons discussed above, Applicants assert that Utsumi does not teach or suggest the device of claim 43.

VB. Claim 47

Claim 47, as amended, is shown below for the convenience of the Examiner.

47. A conditioner device, comprising:

a housing;

a first electrode, disposed in said housing such that said first electrode is stationary within said housing;

a second electrode, removably disposed in said housing such that said second electrode can be manually removed from said housing and then returned to a resting position in said housing;

a high voltage generator disposed in said housing, to provide a potential difference between said first electrode and said second electrode when said second electrode is in the resting position in said housing; and

wherein said stationary first electrode is frictionally cleaned whenever said second electrode is manually removed from said housing.

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V.B.1. Rejection of claim 47 under 35 U.S.C. § 102(e)

In section 15 of the Office Action, claim 47 is rejected under 35 U.S.C. 102(e) as allegedly being anticipated by U.S. Patent No. 6,163,098 to Taylor et al..

The Office Action states that “[with respect to the manner as to how the first electrode is cleaned, it has been within the skill in the art that functional limitation would have insignificant patentable weight when an apparatus claim is being considered. Moreover, since the reference teaches the same structural elements; i.e., the housing, in which disposed the first and second electrodes, and the high voltage generator couple with the two electrodes, the apparatus of the reference would inherently have the same property, meaning the reference’s first electrode would inherently be cleaned in the same manner as the presently claimed invention.” Applicants respectfully disagree with all of the statements.

Applicants agree that Taylor teaches an electro-kinetic transporter-conditioner, including: a housing, a first electrode disposed in the housing, a second electrode, and a high voltage generator disposed in the housing and coupled with the first electrode and the second electrode. However, Taylor does not teach or suggest the feature that “said stationary first electrode is frictionally cleaned whenever said second electrode is manually removed from said housing,” as required by claim 47 as amended. Further, Applicants assert that this feature is **NOT** a functional limitation, but rather, this feature describes the structural relationship between the first and second electrodes. That is, the first electrode and second electrode are structurally related such that the first electrode is cleaned whenever the second electrode is manually removed from the housing. Examples of this claimed structural relationship are shown in FIGS. 5A-5D and 6A-6D, and are discussed in the corresponding text, e.g., on pages 18-22.



As just explained, it is the structural relationship between the first and second electrodes that cause the first electrode to be cleaned whenever the second electrode is manually removed from the housing. Accordingly, applicants assert that it is **NOT** inherent that the apparatus of Taylor would be cleaned in the same manner as claimed in claim 47. The Board of Patent Appeals and Interferences has stated that “[i]n relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art.” Ex parte Levy, 17 USPQ2d 1461, 1464 (1990). There is nothing in Taylor that teaches or suggests that a second electrode is manually removable from the housing and manually returnable to a resting position in the housing. Further, even if a second electrode could be manually removed from the housing of Taylor (which is not taught or suggested in Taylor), there is nothing in Taylor that teaches or suggests that the first electrode is frictionally cleaned whenever the second electrode is manually removed from the housing. That is, it does **NOT** necessarily flow that Taylor’s showing of first and second electrodes in a housing also shows that the first electrode is frictionally cleaned whenever the second electrode is manually removed from the housing. Rather, it is the structural relationship shown in FIGS. 5A-5D and 6A-6D of the present application, and discussed in the corresponding text (e.g., on pages 18-22) of the present application, that will enable this claimed cleaning feature. Merely removing the second electrode of Taylor from the housing of Taylor would have no cleaning effect on the first electrode.

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V.B.2. Rejection of claim 47 under 35 U.S.C. § 102(b)

V.B.2.(i) based on Cachexia et al.

In section 15 of the Office Action, claim 47 is rejected under 35 U.S.C. 102(b) as allegedly being anticipated by U.S. Patent No. 5,698,164 to Cachexia et al.. For at least the reasons discussed above with respect to Taylor, Applicants assert that the claimed feature of a first electrode being frictionally cleaned whenever a second electrode is manually removed from a housing is **NOT** a mere functional limitation, and is **NOT** an inherent limitation, but rather is a structural relationship between the first and second electrodes.

Applicants assert that Cachexia does not teach or suggest that a second electrode is removably disposed in a housing such that said second electrode can be manually removed from the housing and then returned to a resting position in the housing, as required by claim 47 as amended. Further, even if a second electrode of Cachexia were manually removable from a housing (which it is not), Cachexia does not teach or suggest that a first electrode is frictionally cleaned when the second electrode is manually removed from a housing, as also required by claim 47 as amended.

V.B.2.(ii) based on Aitkenhead et al.

In section 17 of the Office Action, claims 47 was rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Aitkenhead. For at least the reasons discussed above with respect to Taylor, Applicants assert that the claimed feature of a first electrode being frictionally cleaned whenever a second

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electrode is manually removed from a housing is **NOT** a mere functional limitation, and is **NOT** an inherent limitation, but rather is a structural relationship between the first and second electrodes.

Applicants assert that Aitkenhead does not teach or suggest that a second electrode is removably disposed in a housing such that said second electrode can be manually removed from the housing and then returned to a resting position in the housing, as required by claim 47 as amended. Further, even if a second electrode of Aitkenhead were manually removable from a housing (which it is not), Aitkenhead does not teach or suggest that a first electrode is frictionally cleaned when the second electrode is manually removed from a housing, as also required by claim 47 as amended.

V.B.2.(iii) based on Kikuchi

In Section 18 of the Office Action, claim 47 is rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Kikuchi. Kikuchi shows discharging electrodes 1 and dust collecting electrodes 3. A scraping means 4 is maneuvered using chains 6 and winding machine 14, as discussed above. However, there is nothing in Kikuchi that teaches or suggests that any of the electrodes is removably disposed in a housing such that the electrode can be manually removed from the housing and then returned to a resting position in the housing, as required by claim 47 as amended. Further, even if a second electrode of Kikuchi were manually removable from a housing (which it is not), Kikuchi does not teach or suggest that a first electrode is frictionally cleaned when the second electrode is manually removed from a housing, as also required by claim 47 as amended.

For at least the reasons discussed above with respect to Taylor, Applicants assert that the claimed feature of a first electrode being frictionally cleaned whenever a second electrode is manually removed from

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a housing is **NOT** a mere functional limitation, and is **NOT** an inherent limitation, but rather is a structural relationship between the first and second electrodes.

V.B.2.(iv) based on Borysiak

In section 19 of the Office Action, claim is rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Borysiak. Borysiak shows ionize wires 24, ionize plates 28, collector plates 16 and complimentary collector plates 17. The plates and wires are within a housing 56, as shown in FIGS. 3 and 6. Scraper plates 32 and 42 are used to clean the plates, and wire scraper 36 is used to clean the ionize wires 24. However, there is nothing in Borysiak teaches or suggest that any of the plates or wires (assuming they are electrodes) are removably disposed in the housing 54 such that they can be manually removed from the housing and then returned to a resting position in the housing, as required by claim 47 as amended. Rather, it is clear from FIGS. 3 and 6 of Borysiak that all the plates and wires of Borysiak always remain within the housing 56. Additionally, the plates 17 and 18 of Borysiak which appear to be lowerable, are only lowerable within the housing 56 by lowering base plate 14. Thus, it is clear than any movement of plates 17 and 18 of Borysiak must be accomplished using machinery. Further, even if the plates or wires of Borysiak were manually removable from a housing (which they are clearly not), Borysiak does not teach or suggest that a first electrode is frictionally cleaned whenever a second electrode is manually removed from the housing, as required by claim 47 as amended.

For at least the reasons discussed above with respect to Taylor, Applicants assert that the claimed feature of a first electrode being frictionally cleaned whenever a second electrode is manually removed from

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a housing is **NOT** a mere functional limitation, and is **NOT** an inherent limitation, but rather is a structural relationship between the first and second electrodes.

V.C. Claim 49-50

Claim 49, as amended, is reproduced below for the convenience of the Examiner.

49. A conditioner device, comprising:
- a housing;
 - a first electrode, disposed in said housing;
 - a second electrode removably disposed in said housing;
 - a source of high voltage, disposed in said housing, coupled with said first electrode and said second electrode;
 - a free-floating electrode cleaning mechanism engaging said first electrode;
 - wherein rotation of said housing causes movement of said free-floating electrode cleaning mechanism to frictionally clean said first electrode.

V.C.1. Rejection of claim 49 under 35 U.S.C. § 102(e)

In Section 15 of the Office Action, claim 49 is rejected under 35 U.S.C. 102(e) as allegedly being anticipated by Taylor.

For at least the reasons similar to those discussed above, Applicants assert that the claimed features relating to the “free-floating electrode cleaning mechanism” and that “rotation of said housing causes

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movement of said free-floating electrode cleaning mechanism to frictionally clean said first electrode” are **NOT** mere functional limitations, and are **NOT** inherent limitations. Rather, the “free-floating electrode cleaning mechanism” is a structural element. Further, that “rotation of said housing causes movement of said free-floating electrode cleaning mechanism to frictionally clean said first electrode” defines a structural relationship between the electrode cleaning mechanism, the housing, and the first electrode.

Taylor does not teach or suggest a free-floating electrode cleaning mechanism, as required by claim 49. Additionally, Taylor does not teach or suggest that rotation of a housing causes a free-floating electrode mechanism to frictionally clean a first electrode, as also required by claim 49.

V.C.2.(i) based on Kikuchi

In section 18 of the Office Action, claims 49 and 50 are rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Kikuchi. Kikuchi shows discharging electrodes 1 and dust collecting electrodes 3. The dust collecting electrodes 3 are cleaned by a scraping means 4 that is maneuvered using chains 6 and winding machine 14, as discussed in more detail above. The scraping means 4 is clearly not free-floating. Further, the scraping means is maneuvered using chains and winding machine 14. Accordingly, Kikuchi does not teach or suggest a free-floating electrode cleaning mechanism, as required by claim 49. Additionally, Kikuchi does not teach or suggest that rotation of a housing causes a free-floating electrode mechanism to frictionally clean a first electrode, as also required by claim 49.

V.C.2.(ii) based on Borysiak et al.

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In section 19 of the Office Action, claims 49-50 52-54 63 are rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Borysiak. As discussed above, Borysiak shows scraper plates 32 and 42 that are used to clean the collector plates, and a wire scraper 36 that is used to clean the ionize wires 24. All of these elements are within a housing 56. The housing 56 appears to be part of an VAC. system or some other industrial sized electrostatic air cleaner system. The scraper plates 32 and 42 and the wire scraper 36 are clearly not free-floating. Further, the housing 56 of Borysiak is not rotatable, and even if it were, rotation of the housing 56 of Borysiak would not cause the scraper plates 32 and 42 and the wire scraper 36 to frictionally clean the collector plates 32 or 42 or the ionize wires 24. Accordingly, Borysiak does not teach or suggest a free-floating electrode cleaning mechanism, as required by claim 49. Additionally, Borysiak does not teach or suggest that rotation of a housing causes a free-floating electrode mechanism to frictionally clean a first electrode, as also required by claim 49.

V.C.2.(iv) Discussion of new art (Utsumi)

Applicant further assert that claim 49 is patentable over the newly submitted Utsumi reference for similar reasons to those explained above in the discussion of claim 43.

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V.D. Claim 51-54

Claim 51, as amended, is reproduced below for the convenience of the Examiner.

51. A conditioner device, comprising:

a housing;

a first electrode, disposed in said housing;

a second electrode, removably disposed in said housing such that said second electrode can be manually removed from said housing and then returned to a resting position in said housing;

a source of high voltage, disposed in said housing, to provide a potential difference between said first electrode and said second electrode when said second electrode is in the resting position in said housing; and

at least one free-floating slidable member having a through opening;

wherein said first electrode passes through said through opening such that rotation of said housing causes movement of said free-floating slidable member along a length of said first electrode to at least partially frictionally clean an outer surface of said first electrode.

In section 18 of the Office Action, claims 51-52 are rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Kikuchi.

In section 19 of the Office Action, claims 51-52 are rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Borysiak.

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For reasons similar to those discussed above with regards to claim 49, Applicants assert that neither Kikushi nor Borysiak teach or suggest “a second electrode, removably disposed in said housing such that said second electrode can be manually removed from said housing and then returned to a resting position in said housing,” as required by claim 51 as amended. Further, for reasons similar to those discussed above with regards to claim 49, Applicants assert that neither Kikushi nor Borysiak teach or suggest that “rotation of said housing causes movement of said free-floating slidable member along a length of said first electrode to at least partially frictionally clean an outer surface of said first electrode,” as required by claim 51 as amended.

Applicant further assert that claim 51 is patentable over the newly submitted Utsumi reference for similar reasons to those explained above in the discussion of claim 43.

Claims 52-54 depend from and add additional features to independent claim 51. Applicants assert that these claims are patentable for at least the reasons discussed above in the discussion of claim 51, and for the features that they add.

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VE Claim 55

Claim 55, as amended, is reproduced below for the convenience of the Examiner.

55. A conditioner device, comprising:

- a housing;
- a first electrode, disposed in said housing;
- a second electrode removably disposed in said housing such that said second electrode can be manually removed from said housing and then returned to a resting position in said housing;
- a source of high voltage coupled with said first electrode and said second electrode;
- at least one free-floating slidable member having a through opening; and
- wherein rotation of said housing causes movement of said slidable member along said first electrode to frictionally clean an outer surface of said first electrode.

In section 15 of the Office Action, claim 55 is rejected under 35 U.S.C. 102(e) as being anticipated by Taylor.

In section 18 of the Office Action, claim 55 is rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Kikuchi.

In section 19 of the Office Action, claims 55 is rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Borysiak.

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For reasons similar to those discussed above with regards to claim 49, Applicants assert that neither Kikushi nor Borysiak teach or suggest "a second electrode removably disposed in said housing such that said second electrode can be manually removed from said housing and then returned to a resting position in said housing," as required by claim 55 as amended. Further, for reasons similar to those discussed above with regards to claim 49, Applicants assert that neither Kikushi nor Borysiak teach or suggest that "rotation of said housing causes movement of said free-floating slidable member along a length of said first electrode to at least partially frictionally clean an outer surface of said first electrode," as required by claim 55 as amended. Taylor does not teach or suggest these deficiencies of Kikushi and Borysiak.

Further, during the telephone interview on May 22, 2003, the Examiner agreed that neither Kikushi nor Borysiak teach or suggest that "rotation of said housing causes movement of said free-floating slidable member along a length of said first electrode to at least partially frictionally clean an outer surface of said first electrode," as required by claim 55 as amended.

During the telephone interview, Applicants representative also explained the differences between claim 55 and the newly submitted Utsumi reference (which Applicants' representative had faxed to the Examiner). More specifically, Applicants representative presented similar arguments as those presented above in the discussion of claim 43. The Examiner agreed that claim 55 as amended was distinguishable over the newly submitted Utsumi reference.

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V.F. Claims 56-57

Claim 56, as amended, is reproduced below for the convenience of the Examiner.

56. A conditioner device, comprising:
- a housing;
 - a first electrode, disposed in said housing;
 - a second electrode, removably disposed in said housing; and
 - means, attached to said second electrode, for frictionally cleaning said first electrode whenever said second electrode is manually removed from said housing.

In section 18 of the Office Action, claims 56-57 are rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Kikuchi.

In section 19 of the Office Action, claims 56-57 are rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Borysiak.

For many of the reasons discussed above with respect to claim 47, Applicants assert that Kikushi nor Borysiak teach or suggest a “means, attached to said second electrode, for frictionally cleaning said first electrode whenever said second electrode is manually removed from said housing,” as required by claim 56.

Claim 57 depends from and add additional features to independent claim 56. Applicants assert that claim 57 is patentable for at least the reasons discussed above in the discussion of claim 56, and for the features that it adds.

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V.G. Claim 63

Claim 63, as amended, is reproduced below for the convenience of the Examiner.

63. A conditioner device, comprising:
- a housing;
 - a first electrode, disposed in said housing;
 - a second electrode, disposed in said housing;
 - a source of voltage, disposed in said housing, coupled between said first electrode and said second electrode; and
 - at least one free-floating slidable member having a through opening;
- wherein said first electrode passes through said through opening such that rotation of said housing causes movement of said free-floating slidable member along a length of said first electrode to at least partially frictionally clean an outer surface of said first electrode.

In section 15 of the Office Action, claim 63 is rejected under 35 U.S.C. 102(e) as being anticipated by Taylor.

In section 18 of the Office Action, claim 63 is rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Kikuchi.

In section 19 of the Office Action, claim 63 is rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Borysiak.

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For reasons similar to those discussed above with regards to claim 49, Applicants assert that neither Kikushi nor Borysiak teach or suggest that "rotation of said housing causes movement of said free-floating slidable member along a length of said first electrode to at least partially frictionally clean an outer surface of said first electrode," as required by claim 53 as amended. Applicants assert that Taylor does not teach these deficiencies of Kikushi and Borysiak. Additionally, for reasons similar to those discussed above with regards to claim 43, Applicants believe that claim 53 as amended is also patentable over the newly submitted Utsumi reference.

VI. Rejections under 35 U.S.C. § 103(a)

In section 21 of the Office Action, claims 45, 48 and 53 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Kikushi and Borysiak.

VI.1. Claim 45

Applicants assert that claim 45, which depends from claim 43, is patentable for at least the reasons discussed above in the discussion of claim 43, and for the features that it adds.

VI.2. Claim 48

The Office Action states "In regards to claim 48, neither Kikuchi nor Borysiak teaches the member defining the through opening being bead-shaped." However, claim 48 does not include a through opening that is bead shaped. Rather, claim 48 includes "at least one bead-shaped member defining a through opening." These merely means that the bead-shape member defines the opening, as opposed to the

opening being a separate element from the bead-shaped member. The same language was used in claim 43, discussed above.

The Office Action also states that the shape of the scraper would have been a design choice, and that “[since Applicants have not disclosed whether using scrapers with a bead shape would be more advantageous than other shapes, the scraper of Kikuchi or Borysiak would function the same way as the bead-shaped member in the presently claimed invention.” Applicants respectfully disagree with this statement. As mentioned above in the discussion of claim 43, the “bead-shaped member” is patentably distinct from the scrapers of Kikushi and Borysiak.

The claimed bead-shaped member is much smaller, lighter, and of a different shape than the scraping means of Kikushi. This can be appreciated from FIGS. 7A-7E of the present application. Further, because of the relatively small size and weight of a bead-shaped member, movement of the bead-shaped member “can result from the user inverting unit 100, e.g., turning the unit upside down.” (See the present application, page 22, lines 35-56.) Further, because of the relatively small size and weight of a bead-shaped member, movement of the bead-shaped member can be accomplished without the complicated machinery of Kikushi or Borysiak. As claimed, it is such movement of the bead-shaped member along the length of the first electrode at least partially frictionally cleans the first electrode. In contrast, Kikushi requires the complex, heavy and costly winding machine 14 and chains 6 to maneuver the large, heavy and bulky scraping means 4. Similarly, the scrapers 42, 42 and 26 of Borysiak are generally planer and rectangular, and require complex machinery to maneuver.

Additionally, for reasons similar to those discussed above with regards to claim 43, Applicants believe that claim 48 as amended is also patentable over the newly submitted Utsumi reference.

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VI.3. Claim 53

Applicants assert that claim 53, which depends from claim 51, is patentable for at least the reasons discussed above in the discussion of claim 51, and for the features that it adds.

VII. Conclusion

In light of the above, it is respectfully submitted that all of the claims now pending in the subject patent application should be allowable, and a Notice of Allowance is requested. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of a patent.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

Date: 6/25/03

By: Jeffrey R. Kurin
Jeffrey R. Kurin
Reg. No. 41,132

Fiedler Dub Meyer & Lovejoy LP
Four Embarcadero Center, Fourth Floor
San Francisco, California 94111-4156
Telephone: (415) 362-3800

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